

Abstract of the Disclosure

SHUTTER-SHIELD FOR X-RAY RADIATION PROTECTION

A shutter-shield system for radiation protection is applied to a an x-ray generator in a shielded station for inspecting products moving through the station on a conveyor. Deployed in a sliding attachment on a collimator housing of the x-ray generator, a shutter plate is made movable by an actuator and is configured with an aperture that, in the absence of power applied to the actuator, is made to align with a fixed aperture of the collimator so as to allow emission of the x-ray beam as required for normal inspection purposes. Whenever an anomaly in the product loading on the conveyer creates a gap that could otherwise cause an increase in environmental radiation levels, powering the actuator moves the shutter plate to an offset location that offsets the apertures to an effectively closed state to initiate a standby condition wherein x-ray radiation is substantially confined to the interior region of the collimator, without having to shut down the x-ray generator itself.